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# Means Of Achieving Business Process Management Success Factors

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# MEANS OF ACHIEVING BUSINESS PROCESS MANAGEMENT SUCCESS FACTORS

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## Abstract

Business Process Management (BPM) in recent years has become a highest priority area for most organizations. Since this concept is multidisciplinary, success in this endeavour requires considering different factors. A number of studies have been conducted to identify these factors; however, most are limited to the introduction of high-level factors or to the identification of the means of success within only a specific context. This paper presents a holistic framework of success factors as well as the associated means for achieving success. This framework introduces nine factors, namely culture, leadership, communication, Information Technology, strategic alignment, people, project management, performance measurement and methodology. Each of these factors are characterized further by defining some sub-constructs and under each sub construct the means for achieving success are also introduced. This framework including means for achieving success can be useful for BPM project stakeholders in adequately planning the initiative and checking the progress during the implementation.

***Keywords:*** *Business process management, Critical success factors, Means, Framework, BPM project*

## 1 INTRODUCTION AND BACKGROUND

Recent Gartner studies (Gartner 2009) have identified BPM as the number one business priority of CIOs globally. Earlier research also shows the importance of process management in Europe and US (de Bruin and Rosemann 2007). While Process orientation is rising in importance, it is not a new concept. Many organizations used process-oriented transformation for organization renovation but only a few organizations that could completely integrate business functions, to form end-to-end processes, and gain efficiency with process-based activities (Spanyi 2003). Even these businesses, have found the process of achieving this very challenging (Hammer 2007). Despite of high failure rates and criticisms, there is a common consensus that if business process management projects are implemented correctly and with effective use of Information Technology, it stilts significant advancements of organizations` performance (Ranganathan C. and Jasir S. Dhaliwal. 2001). Therefore, the quest to find and explore the success and failure factors has been in the BPM research agenda for a considerable time.

Regardless of the high amount of research in BPM success and failure, most past studies were limited to identifying and reporting only a list of high-level factors [e.g. Khong and Richardson (2003), and Abdul-Hadi et al (2005)]. On the other hand, there have been a few detailed case studies (e.g. Paper et al. (2001), Balzarova et al. (2004) and Goela and Chen (2008)) which investigate the success factors of BPM describing the underlying reasons for success within a chosen context. Yet another set of studies, only concentrate on selected aspects of BPM projects and do not involve the holistic view. Some examples of this: Sutcliffe (1999), who reports on leadership; Yoon et al (1998) and Dennis et al. (2003) who reports of the role of Information Technology in the context of BPM project success. Very limited exploratory analysis have been reported to understand the underlying reasons behind business process project failures and what is really required to achieve success (Paper and Chang 2005). Paper and Chang (2005,p.122)) critique these types of research stating that "...*much more work of this type needs to be undertaken to uncover a rich and theoretically sound explanation of BPR success and failure*".

Other than the direct BPM success studies, BPM maturity studies have emerged in recent years in relation to BPM progress. Different models which are introduced by Hammer (2007), Curtis and Alden (2007) and de Bruin, Rosemann et al (2006) are some examples of such. These studies have attempted to identify areas in which the organizations need to develop capability to support BPM initiatives. the link between the maturity of an organization and the success of BPM initiatives is clearly acceptable (de Bruin, Rosemann et al. 2006; Melenovsky and Sinur 2006), However, most of these studies are predominantly focused at an overarching organizational level and do not explain factors and issues related to success at the level of individual projects.

As presented in the introduction, while there is no dearth in BPM success studies, limitations within these are many. A single coherent framework of BPM success factors that is (i) generalised yet (ii) detailed enough, (iii) that can be easily adopted by future research, (iv) which also describes 'how' to achieve these factors, is yet to be found. We try to address this limitation through this study. The overall aim is to address the following research questions through a synthesised analysis of literature:

1. *What are the success factors of BPM?*
2. *What are the means of achieving these success factors within BPM initiatives?*

The resulting framework of this study is designed to be applied within individual BPM initiatives as a normative set of guidelines that will point to the essential elements to pay attention to. It will also provide prescriptive guidelines on how one may achieve these elements. 'Success' is a complex phenomena (Seddon, Staples et al. 1999). Success in the context of this study is defined as the resulting status of when the intended goals of the BPM initiative are met to a satisfactory level. Following (Rockart 1979; Magal, Carr et al. 1988) success factors within the context of this research are defined as those key areas where 'things must go right' in order for the BPM initiative to proceed efficiently and be completed successfully. While it is acknowledged that BPM projects can vary based on context, this framework aims to capture a set of success factors and corresponding means, that are as complete as possible.

The remainder of this paper will first present the overall study design depicting how the searching and analysis of the papers took place. It then presents the BPM Success factors framework. The paper concludes by summarizing study findings, contributions and limitations of the study.

## 2 RESEARCH METHOD

A well structured literature review can provide an excellent foundation for further research in new or very narrow topics (Seuring and Muller 2008) and can help to identify conceptual content and develop theories (Meredith 1993; Seuring and Muller 2008). BPM is a relatively new emerging discipline with only a few dedicated BPM resources. While BPM Success has been published prior, they have been scattered across different disciplines and outlets hence warranting the need to conduct a literature review to consolidate such findings. Prior published literature on BPM success was used as secondary data in this research. A synthesised literature review using content analysis techniques was applied to extract, evaluate and interpret the data published on BPM success factors, to build the BPM success factors framework.

The resource collection procedures should be properly defined and delimitated (Mayring 2000). BPM is a multidisciplinary domain; with its key concepts incorporating organization, people, and technology tied with the process concept (McCoy, Hill et al. 2008). Majority of past BPM literature is published under general Business or Information Systems literature. Hence, databases that were dedicated to these disciplines were used as the primary sources for extracting past literature Articles that have been published between 1990 and 2008 were investigated. The abstracts were then analysed in detail by the principle researcher to extract those papers that were relevant to this researchA second researcher randomly analysed 30 of these papers early in the study to confirm the selection decisions of the primary author. Both authors' analysis resulted in the same results.

In addition to this, special practitioner venues (such as Gartner, Mckinsey Quarterly and BPTrends) were also searched. A total of 131 papers were extracted, and analysed (as described in the next section).

Content analysis was applied as the primary technique following (Orlikowski and Baroudi 1991; Duriau, Reger et al. 2007; Lyytinen, Baskerville et al. 2007). This was done manually, using Excel spreadsheets as a data management tool. The analysis took place in three iterations, each forming the three levels of the model, being:

Level 1; the first iteration was to extract the high level success the success factors

Level 2: included the further characterisation of each high level factor in the form of sub-constructs, and

Level 3: means ('how to') of achieving each of the sub-constructs were systematically gathered.

While the full codification was conducted by the principle author, the second author reviewed the excel sheets in iterations to confirm the decisions made.

The last level is a key contribution of this study, where not only the factors are identified (Level 1) and further described (Level 2), but also guidelines on what needs to be done to achieve these factors (Level 3- means) is also provided. Each of the levels, and how the authors derived at these are presented in more detail below.

## 3 RESEARCH FINDINGS

This section presents the research findings, which includes a detailed presentation of the BPM success factors and means framework.

Figure 3.1 illustrates the resulting BPM success factor framework with the nine different success factors.

Prior to the presentation of the framework, it is important to point that the factors for achieving success can be classified into two groups:

- One group consists of those elements which are mostly 'predecessors' that should already exist in an organization prior to commencing a BPM project and BPM project itself has little control or influence on this first category such as Culture.
- The other group includes those factors that can be considered and controlled during the project implementation.

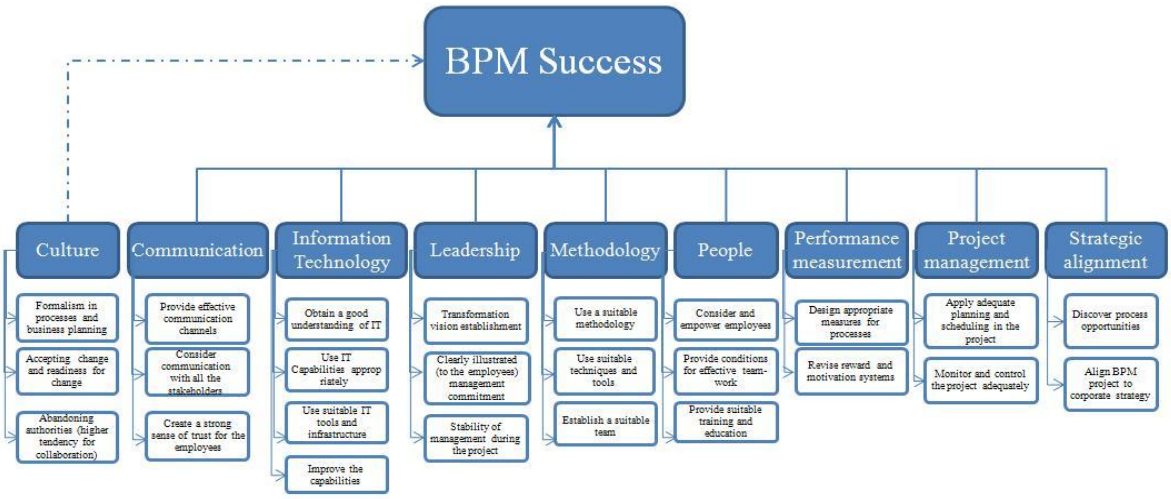


*Figure3.1: BPM Success Factors framework*

### 3.1 Culture

Culture is composed of values, beliefs, attitudes and behaviours in peoples' mind that distinguish one group or category of people from another (Hofstede 1993; McSweeney 2002). Organizational culture provides unwritten and often unspoken guidelines for how to get along in the organization. Culture can help BPM project progress by leading it to success or it can hinder the attempt (Tsai 2003). For instance, Introducing employee empowerment to hierarchical organizations would be seen with scepticism, and it would not be accepted by either managers or employees. Since, organization culture cannot be changed in a short period of time (Grugulis and Wilkinson 2002), therefore its characteristics should be seen as predecessors for success BPM project. In fact, some cultural characteristics in organizations provide suitable conditions for the success of a BPM project, as explained by the following sub constructs of Culture. Means for achieving success have been mentioned under each sub construct:

- Formalism in processes and business planning
  - Formal documented business processes exists and is used in the organization.
  - Detailed planning across all organization functions have been designed for the organization.
  - Business planning has been propagated in the organization and all the stakeholders were informed.
  - There is a tendency of planning for future.
  - There are documented procedures and policies that prevent from temporary ad-hoc decision making.
  - All employees' duties and responsibilities are clearly documented.
  - Inter organizational communication and transaction contracts are based on formal agreements.
  - Performance measurement models are based on outcomes and objectives and not on the management's personal judgment.
  - Decisions are made based on information (facts) rather than management attitudes and opinions.
- Accepting change and readiness for change
  - There is a tendency to change (and innovate), with little fear for loosing stability.
  - Creativity is encouraged and rewarded.
  - Direct and explicit communication is preferred.
  - Management considers employees as a most valuable asset in the organization.
  - Management is aware of expectations and issues important to the employees.
  - Employees trust the managers.
  - Employees are ready to accept the changes in their work.
  - A suitable learning environment is provided in the organization.
  - There are suitable procedures to find out and solve political issues among the employees and managers.
  - Middle managers have an important role in solving the issues and conflicts among the employees.
  - Dependence to the other stakeholders in value chain is not an obstacle for starting processes change.
- Abandoning authorities (higher tendency for collaboration)
  - Managers are ready to abandon authorities.
  - There are bottom-to-up information streams for helping managers in decision-making.
  - There are top-to-bottom information streams to empower employees for adequate decision-making.
  - Decision-making is not centralized and limited to the higher organizational levels.
  - Employees have tendency for accepting responsibility for their own decision-making.
  - Employees are involved in decision-making and their ideas are used.
  - Employee productivity increases when they work together in a team.
  - Team members have tendency to accept leadership in the team.
  - Employees realize the purpose of the work is to deliver customer value.

- Employees have an understanding about how their work is integrated to others' efforts and value added.
- Management can tolerate mistakes that are made by employees who are in new positions with new responsibilities.
- The managerial positions are not fixed and management have enough flexibility in changing the management structure.

### 3.2 Leadership

Existing literature specifically recognized the vital role of leadership in BPM efforts (e.g. Ahadi (2004) and Sutcliffe (1999)); the role of leadership in driving, monitoring and controlling the activities related to the change is very important. Hammer and Champy (1993) mentioned obstacles in leadership as reason for most of the failures in business process changes. Elimination of the political issues between organizational frontiers, providing a suitable structure for compensations, solving the conflicts between managers and leading IT in organizations only will take place with senior management effort. High power of senior management can make an effective start and lead implementation. Leadership is important in different aspects and phases of implementation and some of its affects have been mentioned widely in different research. Leadership in a BPM Success context can be further characterized with three other sub constructs. Means for achieving success have been mentioned under each sub construct:

- Establish transformation vision
  - Senior management should actively participate in setting the vision of BPM initiatives.
  - The vision should involve management expectations from the project.
  - The project vision should propagate to all levels of the organization.
  - The vision should have a holistic view and consider different aspects such as importance of the employees, organization capabilities etc. The vision should be adopted with employees' goals and activities.
  - Middle managers should involve in establishing the vision; their agreement should be achieved and any issues should be resolved by open discussions.
  - In developing the vision, all the stakeholders should be involved.
  - Customer requirements should be considered in the vision development.
  - The developed vision should motivate different stakeholders.
  - The vision should show scope and depth of the project, and its effects on the business.
  - The vision should have adequate flexibility.
  - Constraints in changing the structure should be considered before starting the project.
- Illustrate management commitment (to the employees) clearly
  - Senior management should play an active role in different steps in design and implementation.
  - Management should not abandon all the responsibilities to the consultants and regenerate new teams.
  - Management should assign high priority to the change project issues.
  - Management should have an estimation of approximate budget and resources that the project needs and be ready to provide this.
  - Management should be ready to accept the necessary organization structure change based on project requirements.
  - Senior management should consider feedback from the organization.
  - Management should use ideas arising in the organization in addition to consultants' advice.
  - Management team should share their viewpoints and expectations with the implementation team.
  - Senior management should support the implementation team by assigning key managers and employees to it.
  - Employees should believe the management commitment and follow the decisions.
- Establish Stability of management during project implementation

- Management team should be stable during the project and senior managers should not be changed.
- If the knowledge of BPM is not sufficient in the internal organization, external consultant should be used.
- Management should have a good understanding of BPM concepts, success and failure factors etc.
- Management team should have a thorough understanding and agreement about organizational strategic directions.
- Management team should have a thorough understanding and agreement about the target outcomes of the BPM initiative(s).
- Management team should have a thorough understanding about the role of BPM in their business strategies.

### 3.3 Communication

The result of the McKinsey survey in the change management area shows that the successful organizations have focused on the clear and comprehensive communication (McKinseyQuarterley 2006; 2008). Communication refers to the interaction between different people in different levels and different functional departments, which can be conducted by activities such as providing an environment for exchanging ideas; holding open meetings, and using different media to collect and distribute information. Suitable communication in organizations, not only provides a suitable environment for implementing the project but it also facilitate the deployment of the project. In addition, by effective communication, the fears and insecurities of employees (which is often the reason of their resistance and unwillingness to change), will be cleared (Sockalingam and Doswell 1996). The importance of communication in different phases of the BPM project has been mentioned in prior studies. Communication can be described by the following sub-constructs, under each sub construct, means for achieving success have been mentioned:

- Provide effective communication channels
  - An adequate plan should be designed for delivering a suitable communication campaign throughout the organization.
  - Different communication channels should be used and supported, such as; meetings, forums, medias (e.g. portal, newsletter etc.).
  - Meetings should be open (two-sided), and employees should be able to explain their viewpoints.
  - Meetings should not be held only to satisfy management's information needs.
  - Employees should not have any fear about losing their job or management faith, when explaining their viewpoints.
  - Employees should feel that the management is interested to explore their viewpoints.
  - Management should show suitable reactions to the employees` feedback by executing some of their suggestions and considering the explained issues.
  - Managers should inform employees of the initiatives that have taken place based on employee feedback.
- Consider communication with all the stakeholders
  - Communication between management and implementation teams should be considered.
  - Communication between employees and management should be considered.
  - Communication channels should be provided for receiving customer requirements, feedback and complaints.
  - Communication channels should be provided for receiving partners', suppliers' and other stakeholders' viewpoints.
  - Management team should share their viewpoints and expectations with the implementation team.
  - Managers and implementation team should have clear negotiation about the new process authorities and responsibilities.

- Communication between information technology, and BPM implementation team members should be made effectively.
- Employees should be encouraged to give their improvement idea about the other functional departments.
- The project conditions and progress should be propagated in the organization.
- Successes and failures during the change should also be shared.

- Create a strong sense of trust for the employees
  - The project goals should be explained clearly and honestly in the organization.
  - Information should be shared in all the levels of the organization.
  - Project ambiguities among the employees should be understood and those related aspects of the project should be explained for them to be cleared.
  - Management should try to discover the reasons of employee fear by brainstorming and conducting open meetings.
  - Management should be observant and should prevent any unsuitable metaphors and rumours about the project.
  - Employees should not feel that the implementation team is opposing them by trying to eliminate some positions or increasing their work time etc.

### 3.4 Information Technology

The important role of IT has been discussed by the early founding authors of BPM (e.g Davenport (1993)). It has been further discussed that the best use of IT would be in applying IT capabilities to make business processes more effective, rather than just to automate the processes (Hammer 1990; Akhavan, Jafari et al. 2006). Different roles for IT in BPM projects have been mentioned; an enabler of the business process change, a facilitator during the designing phase and an implementer in the deployment phase (Al-Mashari and Zairi 2000; Attaran 2004). Care must also be taken when applying IT, as it can have a considerable negative effect in business process improvement and be an obstacle for success of the business processes projects (Boudreau and Robey 1996; Al-Mashari and Zairi 2000) Information Technology is explained further by the sub-constructs below related means for achieving success:

- Obtain a good understanding of IT
  - There should be a good understanding of IT capabilities within the implementation team.
  - IT would be used for providing the information about current and future organization capabilities.
  - Make it clear that the purposes of using IT are not just mere automation of the current processes.
  - Correct and suitable understanding of IT capabilities should be prepared for management.
  - Management should be accustomed to use IT.
  - Management should rely on the information from Information Systems for decision-making.
  - Implementation team and business managers should have an understanding of IT complexities underlying the IS development and changes in legacy systems.
  - IT department should consider the employees that are affected when developing new tools.
  - IT constraints should be identified (e.g. Constraints related to the legacy systems).
- Use IT Capabilities appropriately
  - The IT capabilities should be considered in designing new processes.
  - IT should be used for:
    a. data collecting from current situations and analysing the data,
    b. technical modelling and simulating the changes,
    c. evaluating the current processes' performance,
    d. monitoring tasks and project controlling during implementation,
    e. providing electronic documents in order to ease decision making,
    f. improving the communication in the organization,
    g. sharing the information in the organization,

    h. making good communication between and within employees and stakeholders (e.g. suppliers, distributers, partners etc.), and
    i. evaluating employees` performance.
  - IT should be used for providing an avenue of fast and accurate access to the information and decrease the delay in information transmission.
  - There should be a centralized database for storage and recovering the data.
- Use suitable IT tools and infrastructure
  - Employees should feel that the IT tools help them in their work.
  - Employees should be encouraged to work with new tools.
  - The selected tools should not be complex, and they should be easy to learn by employees.
  - The cost of the selected tools should be reasonable.
  - The required tools should be selected with sufficient details and analysis about them.
  - The transitional adoption between new IT tools and existing IT tools that are used in organization should be considered.
  - A competent IT provider should be selected carefully.
  - Suitable platforms for the deployment of IT tools and applications should be selected.
  - IT infrastructure should be suitable for using the newly designed tools.
  - The new IT tools and applications should be deployed adequately.
  - There should be a suitable computer network among the organization.
- Improve IT department capabilities
  - IT constraints should not be considered as an obstacle for innovation and creativity in designing new processes.
  - IT department's capability should be sufficient for supporting new tools' development.
  - New processes should be designed based on the interaction between information technology and organizational processes (paying attention to the socio technical procedures):
    a. information needed in new processes should determine the IT infrastructure elements, and
    b. identifying the IT capabilities should define some alternatives for improvement of business processes.
  - IT department should not have resistance to making necessary changes in legacy systems.
  - IT department should be involved in implementing the new processes.

### 3.5 Methodology

Methodology is an organized collection of the procedures, techniques and tools which has been developed for addressing the life cycle of one project to lead to its objective and decrease the problems and difficulties (Valiris and Glykas 1999; Al-Mashari and Zairi 2000). Different methodologies for supporting the business process projects have been developed (Mansar, Marir et al. 2003). However some researcher like Davenport (1993) states that process innovation is an 'art' rather than a science, while some others emphasize on the necessity of using a methodology for leading a business process effort to the success, by helping to solve the problems during the endeavor (Vakola and Rezgui 2000). Methodology can be described by the following sub-constructs:

- Use a suitable methodology
  - A specific documented methodology should be used for the overall implementation.
  - The methodology should consider feasibility of process change.
  - In the selected methodology, all the phases and steps should be designed clearly.
  - The selected methodology should have enough attention to different aspects (e.g. people, process and technology).
  - The selected methodology should not prevent the creativity and innovation in improving business processes.
  - All the process stakeholders should be considered in the selected methodology.
  - Roles and responsibilities of stakeholders during implementation should be identified.
  - For each phase, goals and potential achievements should be identified.

- Use suitable techniques and tools in implementation
  - Different techniques and procedures should be considered for:
    a. facilitating communication during implementation and gathering feedback about it,
    b. monitoring and evaluation of the progress efforts,
    c. evaluating the current performance of the organization and expected productivity,
    d. mapping and analysing the current processes,
    e. identifying the customer requirements, and
    f. modelling and prototyping.
  - There should be suitable techniques for collecting all the stakeholders' requirements (i.e. customers, partners, employee and etc.) from new/ revised processes.
  - Best practices should be considered when designing the new processes.
  - Supporting tools should be prepared for each selected technique.

### 3.6 Project management

Lack of suitable project management is one of the important problems that organizations are faced during the project implementation. Project should include a detailed scheduling with clear milestones (Sarker and Lee 1999). Resource management is another essential part of the project. Resources include financial resources, technical resources, human resources (Wells 2000). Role of the different stakeholders in the project should be identified. Risk management also is an integrated part of the managing the project (Shin and Jemella 2002; Khong and Richardson 2003). Due to the importance of process change in a BPM project implementation, occasionally project management disciples are not adequately considered or given sufficient importance. The following sub-constructs explain project management. Means for achieving success have been mentioned under each sub construct.

- Apply adequate planning and scheduling in the project
  - Project planning should be done in detail.
  - A detailed scheduling based on the reality should be set.
  - Specific milestones for achievements should be defined.
  - The actual progress should be adapted to baseline plans.
  - Adequate budget should be assigned to the project.
  - Adequate human resource should be assigned to the project.
  - Adequate technical resources should be assigned to the project.
  - The cost estimation should be done sufficiently.
  - The final goals for the project should be determined.
  - The resources for each activity should be assigned clearly and based on reality.
- Establish a suitable team
  - Key expertise for implementing the project should be identified.
  - An implementation team for leading the redesigning effort should be determined.
  - People with a background in strategic planning and past process improvement experience should be preferred.
  - The implementation team should include different expertise (e.g. industrial engineering, finance, marketing, project management, knowledgeable people in the functional areas of the selected processes, human resource and change specialists to assist in organizational structural changes, operations researchers, IS professionals with process modelling and simulation skills).
  - The implementation team should be assigned to the BPM initiative full time or redesign activities should be the first priority in their responsibilities.
  - Involved people should understand their roles.
  - Each individual person's responsibilities should be determined and clearly stated.
  - A responsible (champion) should be defined for the project.
  - The champion should be a high-ranking manager with significant authority and influence to mobilize resources and stimulate enthusiasm.
  - The implementation team should have enough authority for decision-making.

- Monitor and control the project adequately
  - There should be a procedure for cost controlling in the project.
  - There should be a procedure for modifying the project plan based on the necessary changes.
  - The suitable reports for monitoring the project should be defined.
  - The implementation risk should be identified.
  - There should be a procedure for identifying and addressing the risks.
  - Project team should include project management knowledge.
  - Different plans such as implementation schedule and IT development schedule should be coordinated to each other adequately.

### 3.7 Strategic alignment

Strategic alignment of BPM is defined as "the continual tight linkage of organisational priorities and enterprise processes enabling the achievement of business goals" (de Bruin and Rosemann 2006, p.3). If business process management goals are established based on the strategic direction, it would help organizations to achieve long-term benefits (O`Neill and Sohal 1998). In fact, BPM in this way can be seen as a tool for execution the strategy (de Bruin and Rosemann 2006). Different researchers indicate the role of alignment between business objectives and the goal of the BPM efforts as an essential element for the success of projects. As de Bruin (2006, p. 1) mentioned "*Despite this wide-spread support, little is known about how the strategic alignment of BPM can be actually operationalised*.". Strategic alignment is characterised further by following sub constructs and means for achieving success have been mentioned under each sub construct:

- Discover process opportunities
  - The existence of a shared understanding of process improvement initiatives between managers should be ensured.
  - Major corporate processes that support the business objectives and goals should be identified.
  - The "health" of each business process should be preliminary analysed.
  - High-level criteria, both quantitative and qualitative, should be employed in current process performance evaluations.
  - Management and employee culture should be considered in the process evaluation.
  - Availability of IT capabilities should be considered in the process' evaluations.
  - Level of difficulty and risk in re-design should be considered in the process evaluation.
  - The potential redesign impacts of processes on the firm's performance measures should be analysed.
  - Stakeholders' requirements should be considered in the prioritization of the processes.
  - Strategic objectives should be considered in prioritization of process improvement initiatives.
- Align BPM project to corporate strategy
  - An integrated approach to the identification and management of process improvement initiatives should exist.
  - Clear assessment of corporate goals, objectives and Key Performance Indicators (KPIs) should be outlined.
  - BPM initiative objectives should be selected based on organizational strategic objectives.
  - The scope of the project should be defined based on BPM initiative objectives.
  - The depth of the project and level of radicalness of the project should be determined based on the BPM initiative objectives.
  - A manageable set of appropriate process measures from strategy should be derived.
  - The outcome and milestones of the project should be evaluated against strategic objectives.
  - In formulation of the strategy, the process capabilities should be considered.
  - Understanding organization's process capability should be contributed to strategic goals and objectives.

### 3.8 People

The people in BPM context refers to the individuals and groups in the organization that will be influenced by BPM effort. People are one of the most important elements in the business process change since processes should be conducted by people in organization. If people were not encouraged and would not agree with the change, then resistance would emerge (Paper and Chang 2005). In addition, the reason of the resistance can underlie the lack of trust towards the organization and managers, fear of the loosing jobs or etc. (Attaran 1999). Change resistance can influence the failure of the BPM project. Based on the process-oriented concept, peoples' attitudes in organization should change and they should learn how to work across functional boundaries and accept the responsibilities. In addition, people should learn to integrate their work to other efforts to achieve process outcomes(Jeston and Nelis 2008). All of these softer human attitude/ behaviour changes are essential, in addition to trainings in new tools and procedures in new processes (Riley and Brown 2001). Making such training and education available is an integrated part of each project (Al-Mashari and Zairi 1999). The factor can be further described by the following sub constructs, and the means for success have been explained below each sub construct:

- Consider and empower employees
  - Employees should accept the required changes in their role and activities.
  - Real knowledge about the project as well as proper communication should be prepared for dealing with organizational resistance during project implementation.
  - Managers should prepare a suitable environment for reducing fear of employees about:
    a. lack of job security,
    b. loss of power and authority, and
    c. new skill or knowledge requirements.
  - Managers should remove scepticism about results among the employees.
  - Managers should prepare a suitable environment for overcoming conflicts between functional units' interests.
  - Managers should have strong credibility and encourage enthusiasm by involving the employees in implementation.
  - Employees should be involved in the implementing process by:
    a. being involved in meetings, achieving their views, opinions and responses by interviews and questionnaires, and
    b. being involved in some of the activities such as process mapping that relate to their daily duties.
  - Willingness for change should be made among employees by setting and explaining the goals, which encourage employees.
  - Employees should gain trust towards the management and follow the decisions.
  - The decision-making should be pushed down to where the work is actually done.
  - Employees should be motivated for decision-making.
  - Enough authority and responsibility should be assigned to the employees and management should support the employees' decisions by actions.
- Provide conditions for effective team-work
  - The implementation team members should be encouraged for cooperating with each other.
  - There should not be an over-emphasis on teams for cross-functional problems that department local improvements would be neglected.
  - A suitable environment should be provided for teams, so that all the participants equally cooperate for achieving the team goals.
  - Managers should manage the team working process; however, managers should not meddle in teams` decision-making.
  - Managers should protect teams from subversion, such as hidden agendas and fear of expressing opinions.

- Team members should be provided with a framework for dialogue on the best way to get work done and an opportunity to listen to each other.
- Teams should be adequately composed (consistency between team members should be considered).
- Management should make sure that working as a team should not intensify any dissatisfaction.

- Provide suitable training and education
  - Effective training and education should be provided for different levels in the organization (e.g. managers, implementation team and employees).
  - Managers should be trained about BPM concepts, success and failure factors, potential of BPM initiatives, IT skills etc.
  - The required information and trainings about applying the selected techniques and tools should be provided to the implementation team.
  - Members of the implementation team should be trained to understand and use the information that is available.
  - Some general skills and abilities such as problem solving, communication, teamwork, and customer orientation should be provided for the implementation team and employees.
  - Thorough skill assessment of the workforce should be undertaken through job analysis and needs analysis.
  - The analysis should determine what skills are needed and what changes have to take place.
  - Necessary skills needed to perform their new job responsibilities in new processes, should be provided to the employees.
  - Management should have commitment to training by providing suitable resources and encouraging employees to participate.
  - The suitable kind of training should be selected (e.g. classroom training, workshop, on the job training etc.).
  - Employees should be committed to the training effort.
  - The training program should be evaluated to assess if it is focused on what is needed.
  - The training should be seen as an ongoing endeavour.

### 3.9 Performance measurement

Performance measure refers to the measurement of the processes, project and people performance. The processes performance should be measure correctly to compare them with the goals and benchmarks and choose the suitable process for change in addition of assessment of the improvement (Maull, Weaver et al. 1995). BPM projects need some metrics to monitor the progress and ensure that the goals are achieved (McAdam and Donaghy 1999). BPM related literatures emphasize the necessity of adequate performance measurement systems for employees, which should include incentives and rewards which are compatible with process oriented concepts in the organization (Kettinger, Teng et al. 1997; Al-Mashari and Zairi 1999; Wells 2000; Paper and Chang 2005). Evidence of the importance of performance measurement to the practice of BPM has been provided by a number of researchers. Performance measurement is explained by the sub-constructs below. Means for achieving success have been mentioned under each sub construct:

- Design appropriate measures for processes
  - Appropriate and integrated sets of performance measures for processes should be identified for all business processes within the organization.
  - Performance measures should consider the benefits to all stakeholders; employees, management, and customers.
  - An on-going process (cycle) to measure, analyse and re-evaluate results of performance should be developed, to verify successful identification of the key process measures.
  - A continuous process of analysing processes and examining practices, measuring performance, should be considered to identify existing negative gaps of performance.

- Managers should revise strategic objectives and take appropriate action based on the results of analysing the processes.
- Benchmarking should be used in identifying potential targets for improvement.
- The goals for the process should be set a little higher than what the team believes they can accomplish.
- The output goals should be stated in clear and quantitative measurable terms.
- Suitable data on the defined measures should be provided.
- Suitable time frames should be established for data collection; analysing data on an ongoing basis to identify performance trends and changes.
- The trends and changes should be considered for monitoring the progress toward the goal.
- The result should be measured continuously to show the improvement for maintaining manager and employee motivation.
- In measuring the improvement of organizational performance, different dimensions (e.g. time, quality, service, cost, speed, efficiency) should be considered.

- Revise reward and motivation systems
  - Performance measurement should change the focus of compensation from personal activity to process results.
  - New reward systems should reward innovative ideas and facilitate innovative thinking.
  - Reward systems should reward employees for the value they add to the business.
  - Payment practices should be used as a management tool for reinforcement of change in BPM initiatives.
  - Rewards should be used to change employees` behaviour adapted to the new processes by focus on the new processes' requirements and values.
  - Reward and incentive systems must be widespread, fair and encourage harmony among employees.
  - Reward system should include rewarding teamwork and information sharing.
  - Management should devise and execute detailed plans to change the reward structure,

## 4 CONCLUSION; CONTRIBUTIONS, LIMITATIONS AND FURTHER RESEARCH

In spite of the high amount of research in the area of BPM success and failure, past studies are limited to identifying and reporting only a list of high-level factors. The few studies that discussed underlying reasons behind BPM project failures and the actual requirements for achieving success, were either limited within the bounds of a chosen context, or limited to investigating selected factors. The objective of this study was to identify a holistic view of Success Factors and more importantly, means of achieving them would significantly support practitioners involved in BPM initiatives. This paper presented a framework, which included nine different Success Factors related to BPM project implementation based on a comprehensive literature analysis. It showed each factor to be characterized by some sub constructs, and eventually, introduced the means related to each sub construct that were in the form of normative guidelines depicting how to achieve success in BPM projects. This framework has two main areas of application. From an applied view point; it can enable organizations to informally assess how prepared they are to proceed with a BPM project; at the same time, it can assist BPM project stakeholders in planning and monitoring the project. For academia it can be utilized in further research on BPM implementation methodologies, as well as in studying the success of the implementation of other organizational initiatives.

While this work is the first attempt to bring together all past BPM success factors studies in a holistic manner, the authors acknowledge the limitations of the findings presented herein. This study was based on literature, where there were some inherent limitations in extracting information from the literature and searching the database. For example the data base search results provide access only a very limited number of conference papers. The search strategies used (i.e. only based on terms related to "business process" were considered) can also limit the results. Finally, since number of pages should

be limited, all the references which were used in extracting the means for achieving success, have not been mentioned in this paper.

BPM success in particular can be very complex; it will have factors that may differ according to varying project specifics [i.e. the depth of the project and the scope of the project (Al-Mashari and Zairi 2000)], also organization characteristics will affect the project implementation (i.e., size, management style, organizational sector, industry type). Projects with these varying characteristics could require different success factors to different extents, depending on the different project lifecycle phases they pass through. Thus, this framework can be extended with further analysis on how these factors and means can differ based on the demographics of the BPM initiatives. Furthermore, the framework presented here can be further validated (and re-specified) with empirical evidence from case or survey data and can provide insights into how the factors interrelate to each other.

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